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PATENT & TRADEMARK OFFICE

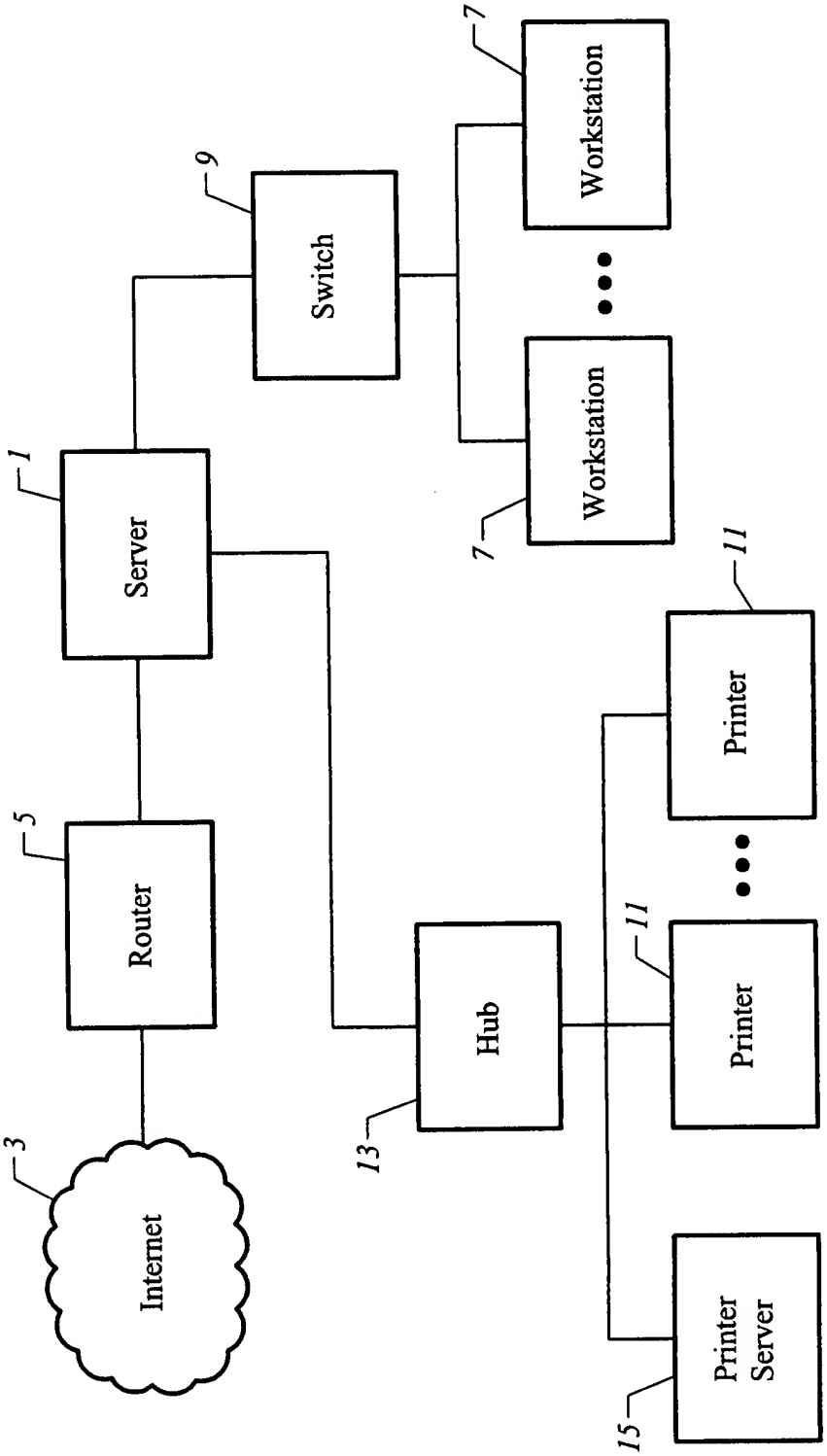

FIG. 1
(Prior Art)

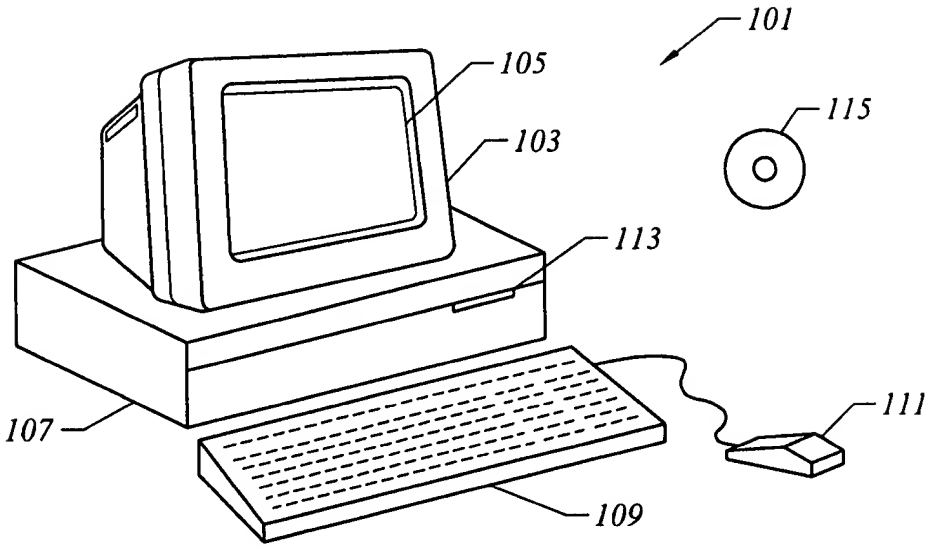

FIG. 2
(Prior Art)

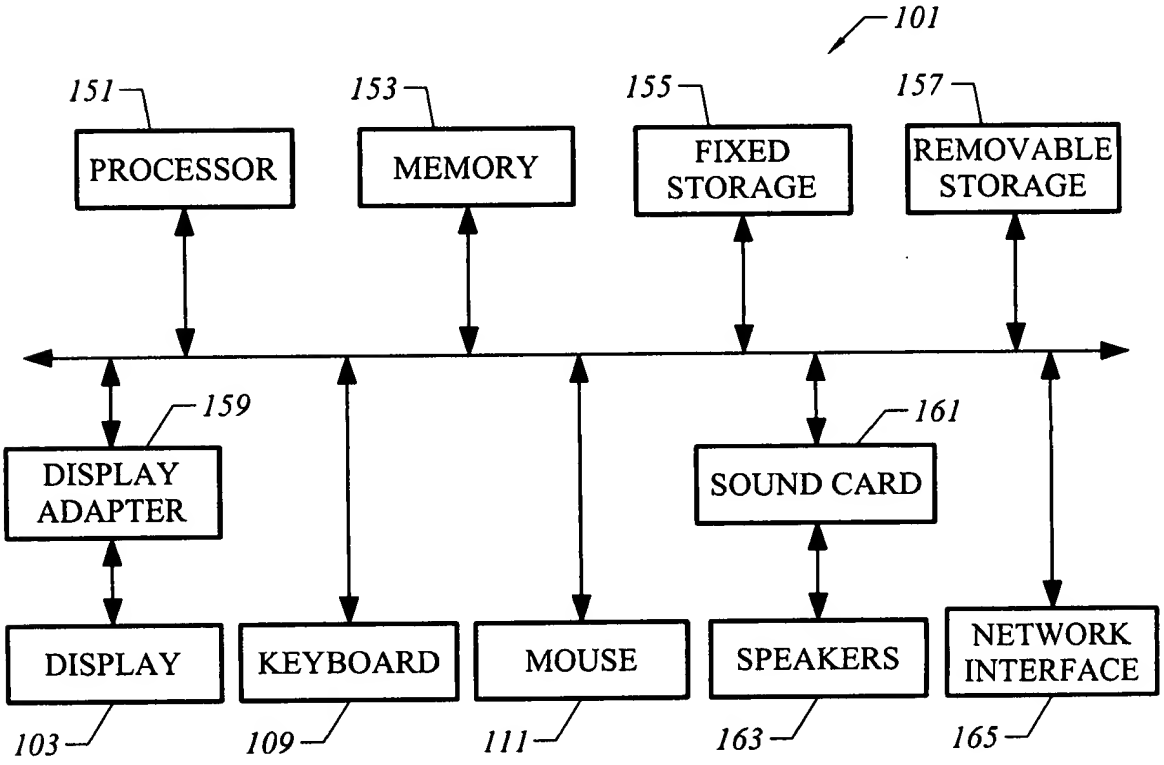

FIG. 3
(Prior Art)

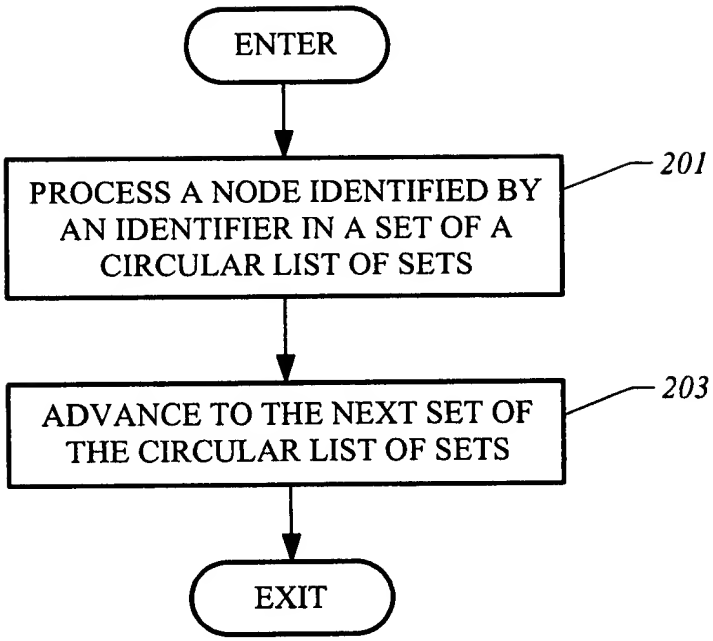
ENTER
PROCESS A NODE IDENTIFIED BY AN IDENTIFIER IN A SET OF A CIRCULAR LIST OF SETS
201
ADVANCE TO THE NEXT SET OF THE CIRCULAR LIST OF SETS
203
EXIT

FIG. 4

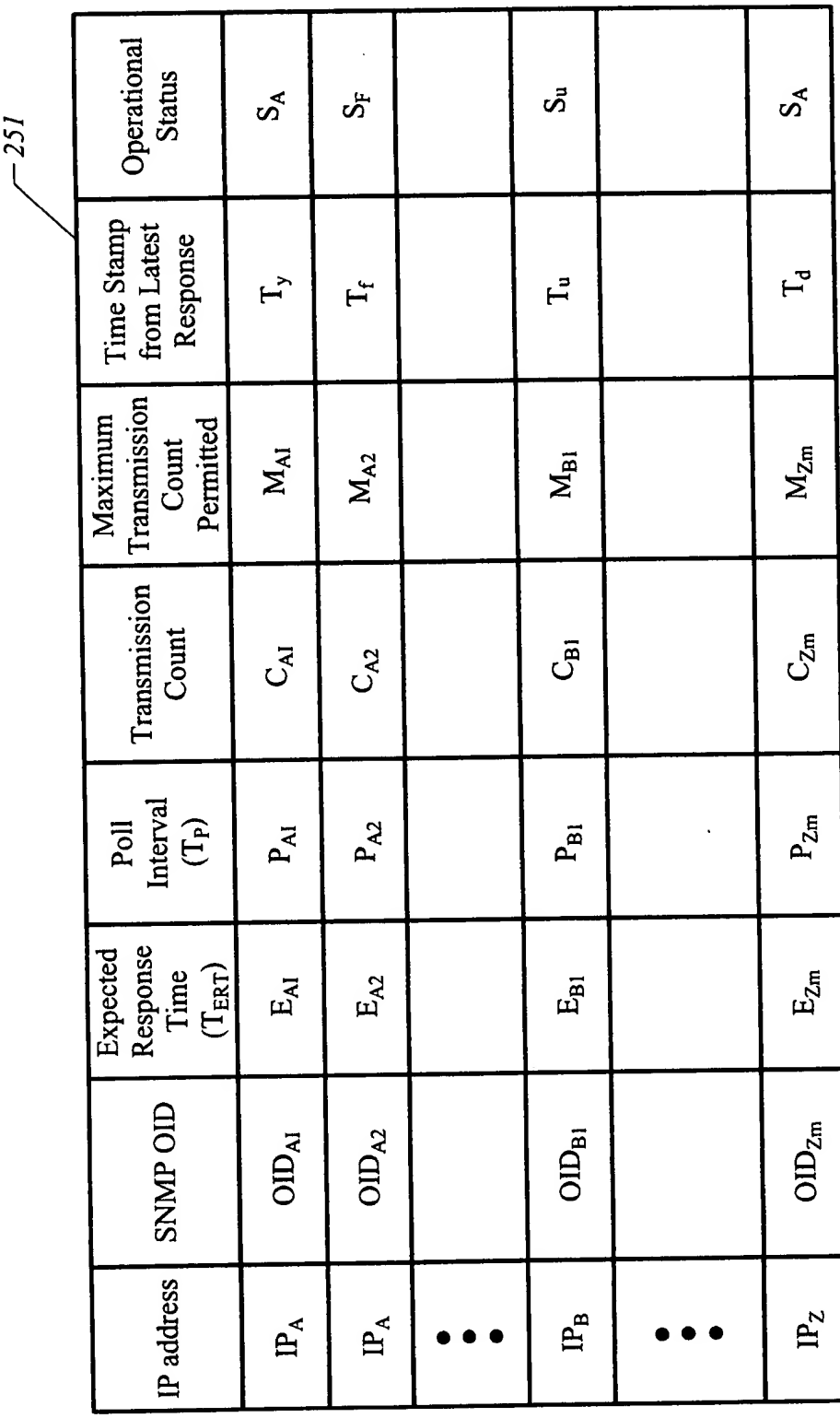
251
IP address
SNMP OID
Expected Response Time (T_{ERT})
Poll Interval (T_P)
Transmission Count
Maximum Transmission Count Permitted
Time Stamp from Latest Response
Operational Status
IP_A OID_{A1} E_{A1} P_{A1} C_{A1} M_{A1} T_y S_A
IP_A OID_{A2} E_{A2} P_{A2} C_{A2} M_{A2} T_f S_F
IP_B OID_{B1} E_{B1} P_{B1} C_{B1} M_{B1} T_u S_u
IP_Z OID_{Zm} E_{Zm} P_{Zm} C_{Zm} M_{Zm} T_d S_A

FIG. 5

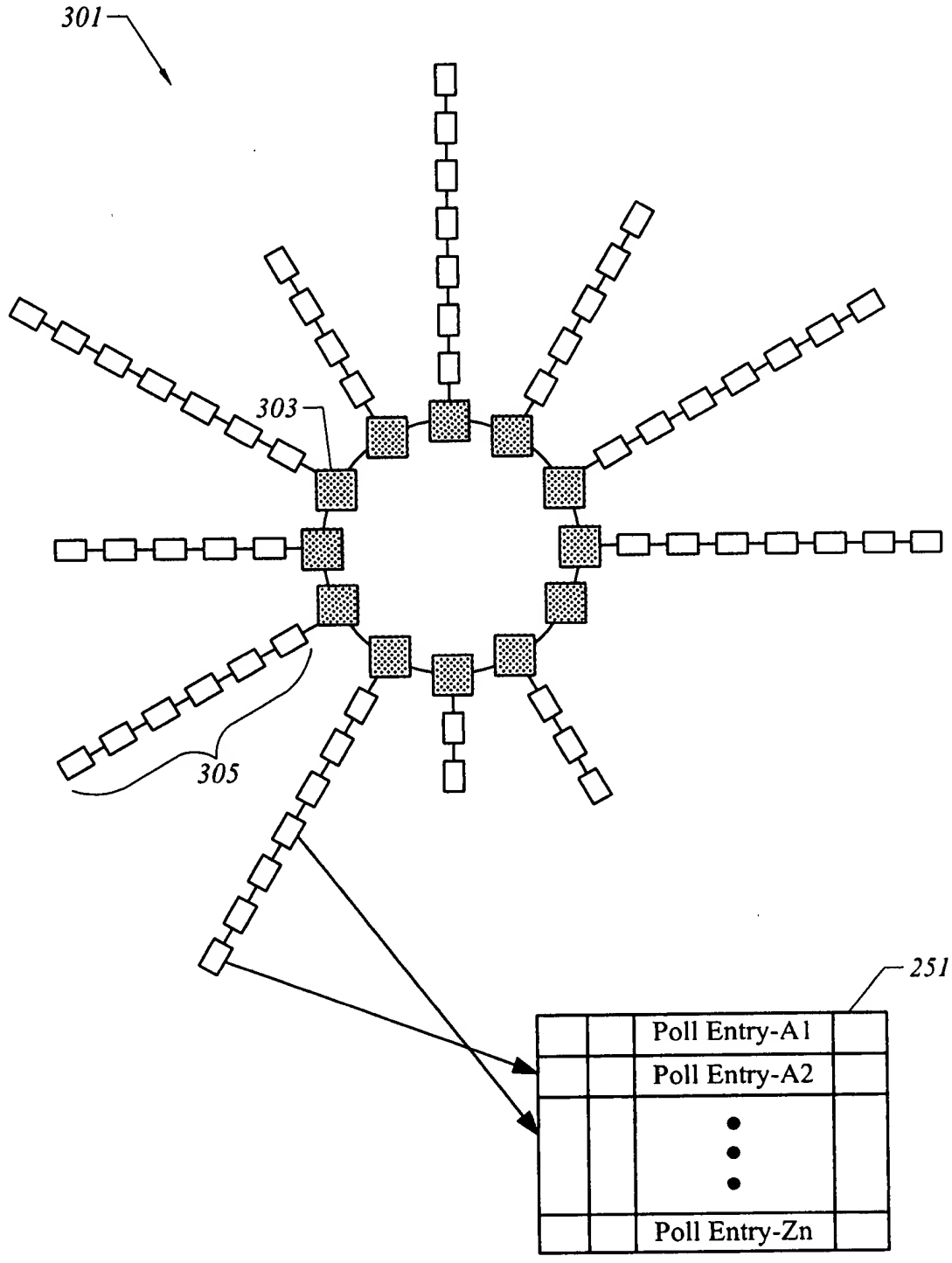

FIG. 6

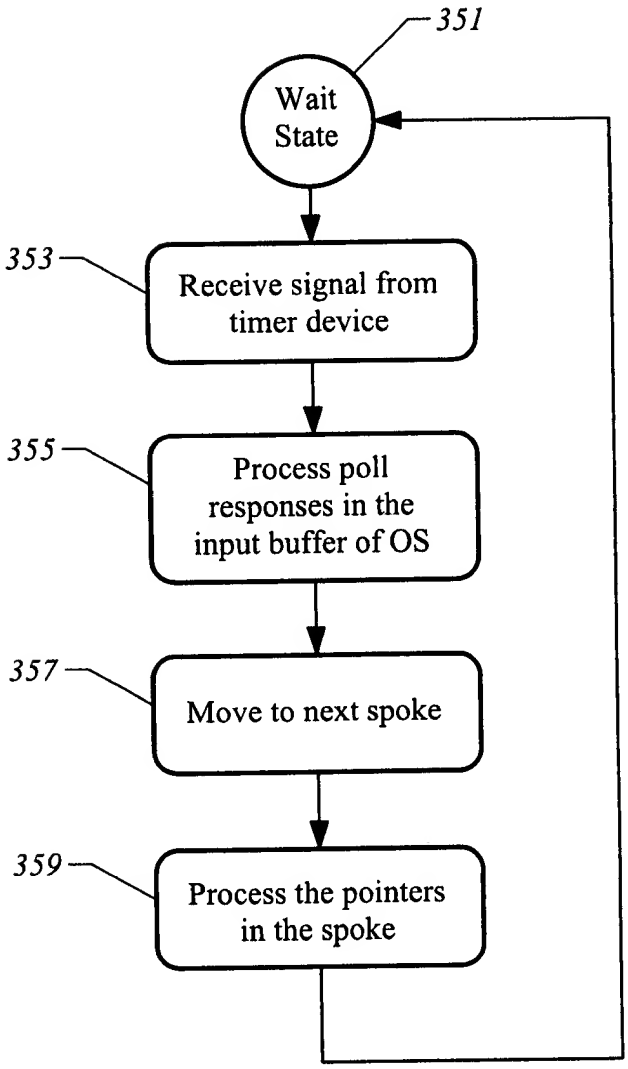
351
Wait State
353
Receive signal from timer device
355
Process poll responses in the input buffer of OS
357
Move to next spoke
359
Process the pointers in the spoke

FIG. 7

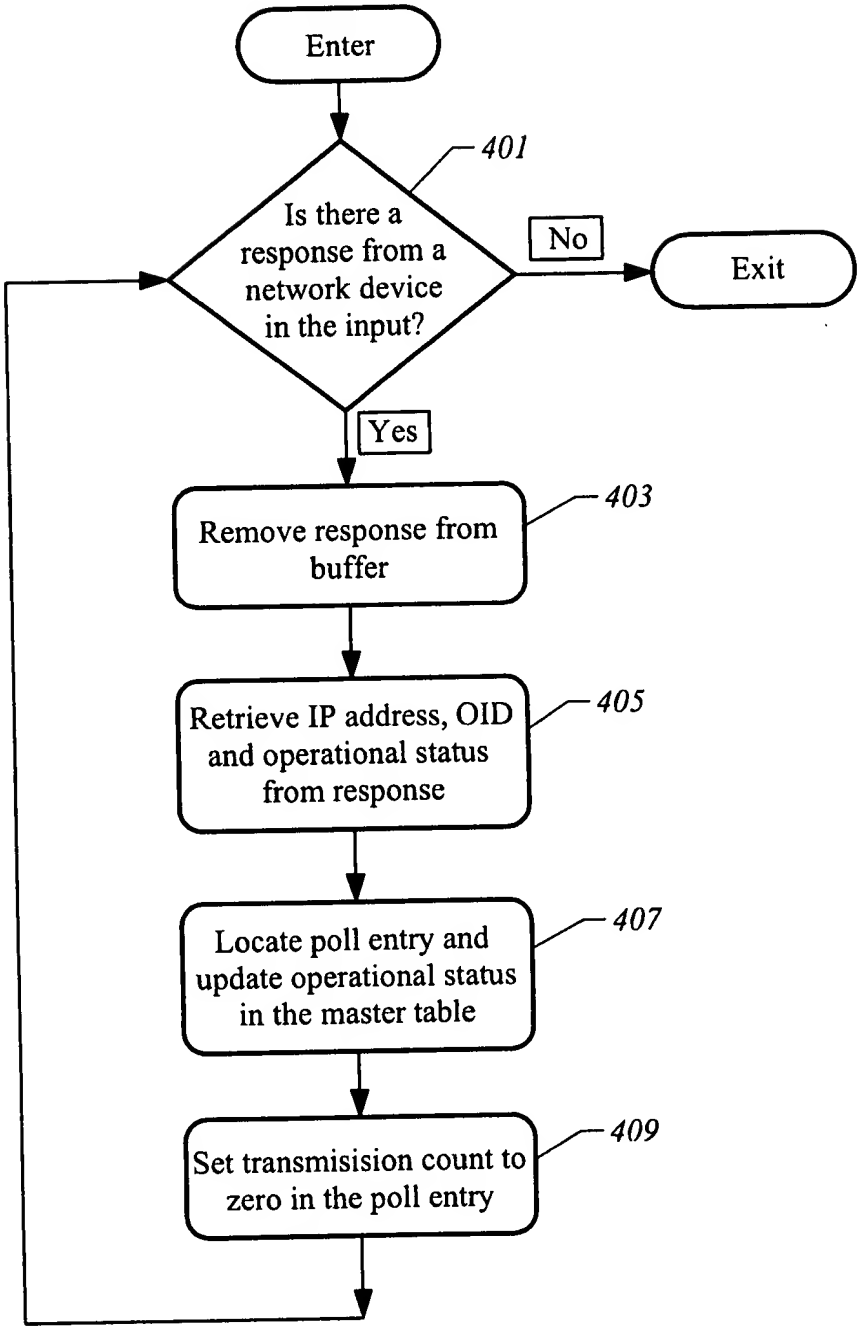
Enter
401
Is there a response from a network device in the input?
No
Exit
Yes
Remove response from buffer
403
Retrieve IP address, OID and operational status from response
405
Locate poll entry and update operational status in the master table
407
Set transmisision count to zero in the poll entry
409

FIG. 8

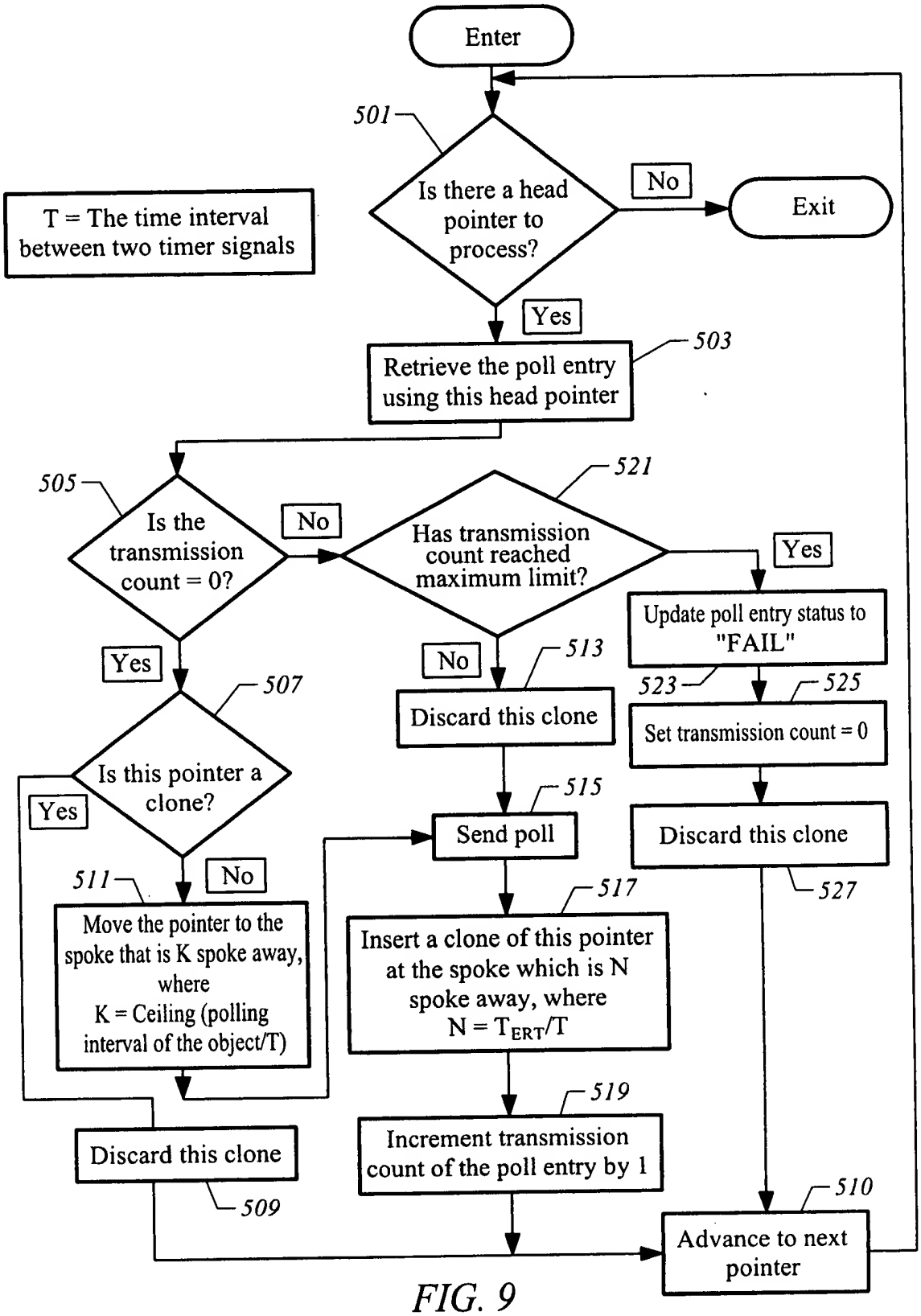
Enter
501
Is there a head pointer to process?
No
Exit
Yes
T = The time interval between two timer signals
503
Retrieve the poll entry using this head pointer
505
Is the transmission count = 0?
No
521
Has transmission count reached maximum limit?
Yes
Update poll entry status to "FAIL"
523
525
Set transmission count = 0
Yes
507
Is this pointer a clone?
No
513
Discard this clone
515
Send poll
Yes
511
Move the pointer to the spoke that is K spoke away, where K = Ceiling (polling interval of the object/T)
517
Insert a clone of this pointer at the spoke which is N spoke away, where N = T_{ERT}/T
519
Increment transmission count of the poll entry by 1
Discard this clone
509
Discard this clone
527
510
Advance to next pointer

FIG. 9

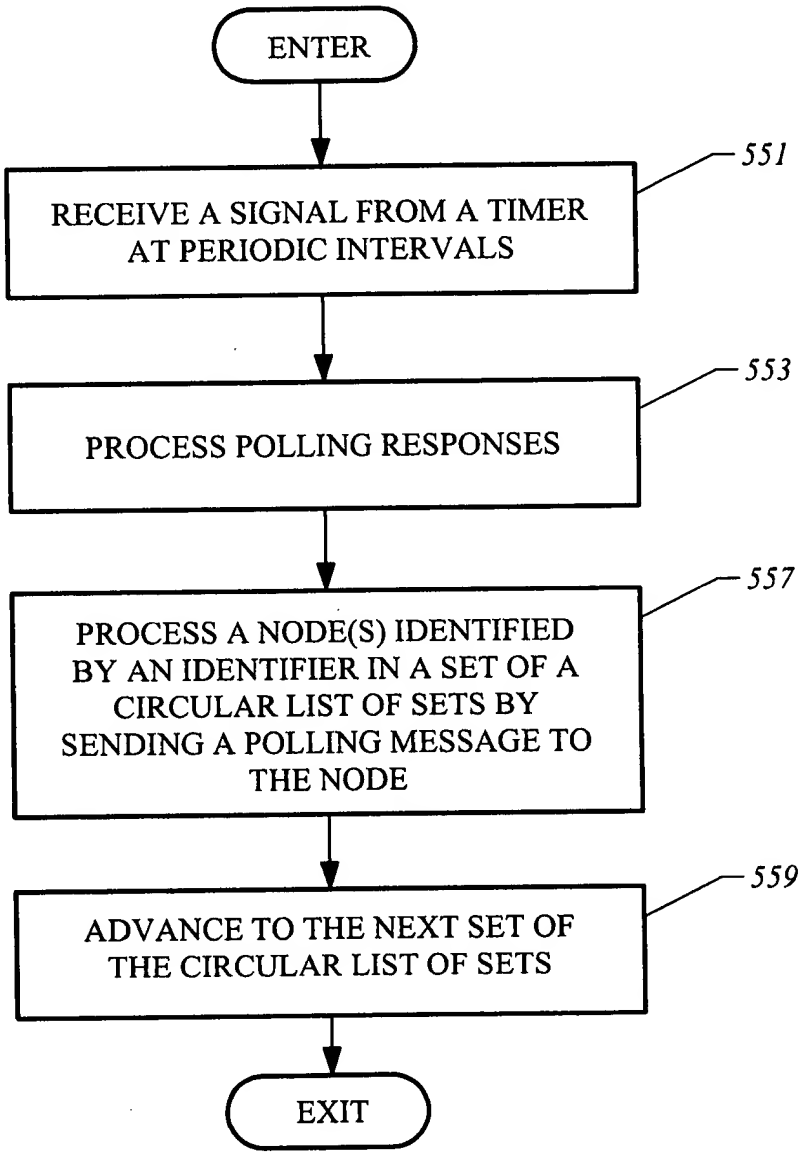
ENTER
RECEIVE A SIGNAL FROM A TIMER AT PERIODIC INTERVALS
551
PROCESS POLLING RESPONSES
553
PROCESS A NODE(S) IDENTIFIED BY AN IDENTIFIER IN A SET OF A CIRCULAR LIST OF SETS BY SENDING A POLLING MESSAGE TO THE NODE
557
ADVANCE TO THE NEXT SET OF THE CIRCULAR LIST OF SETS
559
EXIT

FIG. 10